

What is claimed is:

- 1 1. A method of operating a router in an access network
2 infrastructure connected to a plurality of service networks, comprising the steps
3 of:
4 receiving an incoming packet with a source address;
5 comparing the source address of the incoming packet to network
6 addresses allocated to subscribers of services provided by a service network; and
7 if the source address matches a network address allocated to
8 subscribers of services provided by the service network, forwarding the packet to
9 a router in the service network.
- 1 2. The invention of claim 1 wherein the source address of the
2 incoming packet is assigned to a network access device associated with the
3 subscriber of services provided by the service network.
- 1 3. The invention of claim 1 wherein the service networks utilize
2 the Internet Protocol and wherein the addresses are Internet Protocol addresses.
- 1 4. The invention of claim 3 wherein the plurality of service
2 networks are operated by different Internet Service Providers.
- 1 5. The invention of claim 3 wherein the plurality of service
2 networks offer access to different Internet Protocol-based services.
- 1 6. The invention of claim 3 wherein the access network
2 infrastructure comprises a hybrid fiber coaxial network.
- 1 7. The invention of claim 6 wherein the source address of the
2 incoming packet identifies a network access device attached to the hybrid fiber
3 coaxial network with a cable modem.

1 8. A method of operating an access network infrastructure
2 comprising a plurality of routers and connected to a plurality of service networks,
3 comprising the steps of:
4 using destination-based routing at the routers in the access network
5 infrastructure except at one or more managed access point routers having
6 connections to routers in the plurality of service networks;
7 using policy-based routing at the managed access point routers so
8 that packets having a source address allocated to subscribers of services provided
9 by a service network will be forwarded to a router in the service network.

1 9. The invention of claim 8 wherein packets between network
2 access devices connected to the access network infrastructure are routed in the
3 access network infrastructure using destination-based routing without being
4 forwarded to a service network.

1 10. The invention of claim 8 wherein the access network
2 infrastructure provides access to local services.

1 11. The invention of claim 10 wherein packets associated with the
2 local services are routed in the access network infrastructure using destination-
3 based routing without being forwarded to a service network.

1 12. The invention of claim 8 wherein the source address of the
2 incoming packet is assigned to a network access device associated with the
3 subscriber of services provided by the service network.

1 13. The invention of claim 8 wherein the service networks utilize
2 the Internet Protocol and wherein the addresses are Internet Protocol addresses.

1 14. The invention of claim 13 wherein the plurality of service
2 networks are operated by different Internet Service Providers.

- 1 15. The invention of claim 13 wherein the plurality of service
- 2 networks offer access to different Internet Protocol-based services.